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ABSTRACT

The development of the ability to identify unstated assumptions in arguments should begin in the kindergarten and elementary school if a high level of proficiency is eventually to be reached in sizing up assertions. A clear thinker needs to make sure that propositions are clear by making unstated assumptions explicit. Since children commonly use the behavior of adults to direct their own, parents and teachers should demonstrate both in and out of the classroom that they are using unstated assumptions in their thinking processes and decision making. (The paper includes sample adult/child dialogues that suggest ways adults can help children develop a familiarity with the process of identifying unstated assumptions.) (AEA)

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What Is Being Assumed?

There are many obstacles to clear thinking. One of these is the failure to identify and evaluate concealed beliefs in various claims we make. This is an important step in those arguments where implied premises have to be determined before a complete justification for the conclusion can be given. It needs to be started in the kindergarten and elementary school if a high level of proficiency is to be eventually reached in sizing up assertions.[1] This paper deals with the development of this skill--the ability to identify unstated assumptions in

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arguments.

An assumption is a premise taken for granted; a proposition treated as true; evidence in an argument for a conclusion. Some assumptions are explicitly stated in arguments, but others are hidden. Speakers and writers are often as unaware of the hidden assumptions they make as are their readers and listeners.

An argument is discourse designed to convince or persuade. It very commonly involves deductive reasoning and in its logical form has at least three parts: Premise One, Premise Two, and Conclusion arranged in this form:

Premise One: All dogs are mammals.

Premise Two: Terriers are dogs.

Conclusion: Terriers are mammals.

The arrangement of the parts in an argument is important. Premises are propositions given as evidence for the conclusion and a valid conclusion is the necessary consequence of two or more related premises. Arguments may be valid but not "sound", i.e. true. The argument given above is valid and sound, but

if its parts were arranged in a different way it would not be sound. For example:

Premise One: All dogs are mammals.

Premise Two: Terriers are mammals.

Conclusion: All dogs are terriers.

Propositions (premises) in arguments are statements which tell what is known, believed, doubted, or disbelieved. Each proposition must be either true or false. It can be expressed in a sentence but not every sentence can be a proposition. "Shut the window" and "If only it were April" are examples of sentences which cannot be propositions because they are not true or false. Generally speaking, "sentences in the interrogative or the imperative (questions, commands or prayers) will not express propositions; nor will sentences that need to be supplemented in order to say something definitely true or false."[2]

In some arguments one or more premises are hidden and may be unwarranted or unjustified. A clear thinker needs to make sure that propositions are clear by making unstated assumptions explicit. The validity and soundness of the argument can then be determined.

Arguments which are based on unstated assumptions frequently are stated something like this: "As Resenda is a republic it must have a president."

This argument has one premise and the conclusion and so has this form:

Premise One: Resenda is a republic.

Conclusion: Resenda must have a president.

This form, however, does not show the connection between "Resenda" and "president". The connection is an unstated assumption and it is discovered by "reading between the lines." Asking ones self questions of, or about, what is in the argument aids in this discovery. For the above argument a question such as, "What is being taken for granted about a republic?" or "What would give a reason for saying 'Resenda must have a president'?" give help in identifying the unstated assumption -- "Republics have presidents." The unstated assumption becomes an implied premise in the argument and makes the argument precise enough to justify the conclusion. This is shown in the completed argument:

Premise One: Resenda is a republic.

Implied Premise: Republics have presidents.

Conclusion: Resenda must have a president.

In real life situations arguments are not always as clear and unstated assumptions are not as easily found as in the above illustration. For example take this argument: "That man must be poor--look at his clothes." Its form is:

Conclusion: That man must be poor--look at his clothes.

There are no explicit premises leading to the conclusion given. At this point they are unstated assumptions waiting to be identified by "reading between the lines."

A question for determing the first assumption might be, "What is being assumed about the relationship between a man and his clothes?" If this doesn't help, questions with more cues can be asked, "What inference do people make about men who wear nice clothes?" "About men who wear ragged or tattered clothes?" "How can these answers be generalized to one statement?" Such questioning should lead to the proposition "You can tell a man by his clothes" and it would become an implied premise in the argument.

The argument, however, is not complete since the connection between "clothes" and

"that man" is not made clear. A further premise needs to be found. "What would have to be true of a man's clothes to say the man was poor?" would help identify the unstated assumption as being a statement that said a poor man's clothes are different in some way from the clothes of people who are not poor -- perhaps because they are tattered. If the latter was the distinguishing feature the proposition would be stated, "Poor men wear tattered clothes", and would become a second implied premise."

Even the two implied premises do not give complete evidence for the conclusion. Nothing has been said about getting some reference to "that man" and "his clothes" into the premises. They have all referred to men and clothes in general rather than to that specific "man" and "his clothes".

"What has to be true about the clothes of the man referred to in the conclusion, if a complete justification for the conclusion is given?" would help in identifying the other implied premise of the argument-- "That man has tattered clothes."

With the unstated assumptions identified and stated as premises the argument takes a form that makes it possible to assess its

validity and soundness:

Implied Premise: You can tell a man by his clothes.

Implied Premise: A poor man wears tattered clothes.

Implied Premise: That man has tattered clothes.

Conclusion: That man must be poor -- look at his clothes.

Thus far this paper has attempted to explain what is involved in using the skill, ability to identify unstated assumptions in arguments. Its beginnings, however, should be during the kindergarten and elementary school years. During these early years children profit from experiencing the identification of assumptions. It builds a readiness for more mature forms of the skill later.[3]

Since children commonly use the behavior of adults to direct their own, parents and teachers who demonstrate that they are identifying unstated assumptions and are using them in their thinking are providing an opportunity for children to develop a familiarity with the process of identifying unstated assumptions and the terms peculiar to the process (assume, assumption, unstated assumption, proposition, premise, etc.) as well as a beginning "feel" for, and a positive

attitude toward clear thinking. All of this contributes to an intuitive and unconscious internalizing which provides a readiness for the more formal approaches to teaching logical thinking during the high school and college years. The following anecdote gives an example of such an experience:

> Eight-year-old Shanda was pushing a grocery cart in the supermarket. Her mother selected a box of detergent, read the price, and dropped it in the cart.
>
> A few minutes later Shanda saw a larger box of detergent with the same price on it. She read the price to her mother and said, "We ought to buy this one. It is bigger." "The box is bigger," said her mother, "but that doesn't always mean there is more detergent. Let's see what we can find out about it before we make up our minds." She took the box and together they found the net weight and the list of ingredients in the detergent. When they searched for comparable information on the smaller box they found that the weight of the detergent and the ingredients were the same.
>
> "Hm-m-m", said Shanda. "They're trying to fool us." "How?" said Mother. "By making us think there's more detergent in the big box," replied Shanda.
>
> "That might be," said Mother. "Perhaps the people who packaged the detergent did build in unstated assumptions in order to bend thinking in a way that would make it appear logical to buy the big box of detergent. They might have wanted the customers to reason in this way:
>
> Premise: A box which has more detergent for the same amount of money is a bargain.
>
> Implied Premise (unstated assumption): Big boxes hold more detergent than smaller boxes.

Implied Premise (unstated assumption): This big box holds more detergent and it costs tne same as the smaller box.

Conclusion: Therefore, the big box is a good bargain."

"Since, however, some of their unstated assumptions, or what they were taking for granted, were false their conclusion would also be false."

"We didn't reason that way. We started out with a premise that we knew was true and it led us to a conclusion that was true. It caused us to find out more about the two boxes of detergent. Our reasoning went like this:

Premise: More detergent for the same amount of money is a bargain.

Implied Premise (unstated assumption): Some big boxes will hold more detergent than smaller boxes.

Premise: This is a big box of detergent.

Conclusion: It could, or could not, hold more detergent than the smaller box."

Shanda and her mother determined what unstated assumption was hidden in the non-verbal argument given by the packaging of the detergent, and Shanda had an experience contributing to the development of the skill--ability to identify unstated assumptions in arguments.

There are various opportunities for children to become acquainted with, and grow in understanding of unstated assumptions during the regular activities of the school day:

Brett and Ronald, both nearly six-year-old kindergarteners, had been working together building a large block garage to house the small trucks they had been playing with. Brett suddenly gave the garage a big push and it fell with a bang. Ronald was furious. He pounced on Brett and pounded him good before the teacher could separate the two. When she did get them quiet enough to listen she asked each child to tell his side of the story. Brett's story went like this:

> Ronald and I build blocks.
> When we get through building blocks we tear them down.
> We finished the garage.
> I was through building blocks.
> (Unstated assumption: Ronald was through, too).
> So I tore the garage down.

And Ronald's story went like this:

> Brett and I build blocks.
> When we're through we tear them down.
> We made the garage.
> I wanted to add a ramp.
> (Unstated assumption - Brett knew I wanted to add the ramp).
> We were not through.
> (Unstated assumption - Brett knew we were not through).
> We were not ready to tear the garage down.

When the teacher asked Brett if Ronald had said he was through he said, "No, but he was." When she asked Ronald if he had told Brett he wanted to build a ramp he said, "No, but he knew it needed a ramp."

The teacher then explained that each boy had thought he had a good reason for doing what he did, but it was not really a good reason because each had been assuming something - that is thinking something - which was not true. Because what they were assuming was not true, it made knocking over the garage and pounding Brett something which should not have been done. Then she explained that if each had taken the time to find out what the other was assuming they could have prevented all the trouble.

> After finding out the reason for their misunderstanding the boys proceeded to rebuild the garage. When Brett asked Ronald if he was through and Ronald answered, "Yes," both boys knocked the garage down.

The teacher in this example had taken advantage of a situation to introduce the term "assuming" and its meaning by making the unstated assumption explicit and by showing how it affected their arguments and their conduct.

Children as young as eight and nine enjoy finding and making unstated assumptions explicit in logical arguments. One den mother taught her third and fourth grade cub scouts the importance of finding unstated assumptions by a game she called "Find the Unstated Assumption." She explained it in this way:

> You are to listen carefully while I give you an argument that has a missing statement in it. What I say will give you some clues. You need to put the words I say together and think about them until you have the missing statement.
>
> Let's do one together. The first clue is, All trees are plants. The second clue is, Cedars are plants. Now, from these two clues can you tell what the missing statement is? It has to be a statement that connects the first clue with the second clue.

After the missing statement - Cedars are trees - was found the den mother read the entire

argument and explained that the missing statement was an unstated assumption that became one of the two premises that led to the conclusion: Cedars are plants.

The unstated assumptions in several other arguments were found and the total argument read and explained before the game proceeded with each child trying to be the first to find the implied premise and give the entire argument.

Some of the arguments used in early playings of the game (with the implied premise or unstated assumption in brackets) were:

Premise One: All trees are plants.
[Implied Premise (unstated assumption): No animals are trees]
Conclusion: No animals are plants.

Premise One: All students in this room are eight years old.
[Implied Premise (unstated assumption): Ann's sister is not eight years old.]
Conclusion: Ann's sister is not in this room.

Premise One: Lazy students are failures in school.
[Implied Premise (unstated assumption): Some boys are lazy students.]
Conclusion: Some boys are failures in school.

Premise One: If it is Monday, Jim's father is at work.
Premise Two: If Jim's father is at work, Jim is in school.
/Implied Premise (unstated assumption): It is not Monday./
Conclusion: Jim is not in school.

Mrs. Sharp frequently played a similar game which stressed the identification of unstated assumption with small groups of fifth and sixth grade children after illogical arguments were found in their written reports and compositions. Since these children had developed familiarity with the basic terms through experiences similar to those detailed above the directions were simple:

> The point of this game is to find as many hidden assumptions as possible in the assertion the person who is "It" makes. After you've heard the assertion ask yourself this question, "What is being taken for granted by the speaker?" Raise your hand when you find a hidden assumption, that is, what has been taken for granted.

The actual playing of the game went like this:

Mrs. Sharp: My friend Jane said, "This medicine cured my cold. You should try it." What are the hidden assumptions in this assertion?

Beverly: That your cold was the same kind of cold as hers.

Phyllis: That you would not be allergic to her medicine.

Mike: That you would use it the same way she did.

Eddie: That you are just as healthy in the same ways that she is.

Ronald: That you are honest.

Mrs. Sharp: Let's think about "That you are honest." All of the other assumptions are saying in one way or another that if Jane's medicine will cure my cold, then Jane's cold and my cold as well as any part of Jane and me which affects the way the medicine works will have to be the same. The statement "That you are honest." is not in any way connected with the way the medicine works in my body or with my cold. So it is not an unstated assumption.

Mrs. Sharp: Here is another assertion: "Don't go out. It is raining and you will get wet." Remember to ask yourself, "What is the speaker taking for granted?" or "What else will have to be true to make this statement true?" Who can think of an unstated assumption?

Eddie: That it will still be raining when you get ready to go outside.

Mike: That you don't want to get wet.

Phyllis: That rain is wet.

Etc.

Mrs. Sharp was "It" whenever they played this game until she was sure the children could think of statements that had hidden assumptions. When that time came the players took turns being "It."

If parents and teachers in kindergarten and elementary school take advantage of on-going activities in which identifying unstated assumptions is necessary to think clearly, children will develop a sound foundation for extended development of this important skill in later years.

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